

CLAIMS

What is claimed is:

1. An optical recording and/or reproducing apparatus for use with transferring information with respect to a recording medium, comprising:
 - a spindle motor rotating the recording medium;
 - an optical pickup including an objective lens and an actuator which actuates the objective lens so as to transfer the information with respect to the recording medium; and
 - a control unit driving the spindle motor and the optical pickup to transfer the information with respect to the recording medium and controlling the actuator of the optical pickup in the radial, track, tilt and focusing directions,wherein the actuator comprises:
 - a bobbin movably arranged on a base of the actuator;
 - at least one focus and tilt coil which drives the bobbin in the focus and the tilt directions and at least one track coil which drives the bobbin in the track direction arranged on each of opposite side surfaces of the bobbin;
 - support members which move the bobbin and are provided to the other side surfaces of the bobbin, wherein the focus and tilt coils and the track coils are not arranged on the other side surfaces of the bobbin; and
 - magnets arranged to face corresponding sides of the opposite side surfaces of the bobbin.
2. The optical recording and/or reproducing apparatus of claim 1, wherein:
 - one side of the opposite side surfaces of the bobbin includes first and third focus and tilt coils, and
 - the other one side of the opposite side surfaces of the bobbin includes second and fourth focus and tilt coils.
3. The optical recording and/or reproducing apparatus of claim 2, wherein, in order to drive the actuator in the focus and tilt directions, a first input signal is applied to a first set and a second input signal is applied to a second set, and the first and second sets include corresponding ones of the first through fourth focus and tilt coils.
4. The optical recording and/or reproducing apparatus of claim 3, wherein:

the first set includes one of a pair of the first and third focus and tilt coils, and another pair of the first and second focus and tilt coils; and

the second set coil includes one of a pair of the second and fourth focus and tilt coils, and a pair of the third and fourth focus and tilt coils.

5. The optical recording and/or reproducing apparatus of claim 1, wherein each of the magnets has four polarizations.

6. The optical recording and/or reproducing apparatus of claim 1, wherein each of the magnets comprises first magnet and second magnet parts, each of the first and second magnet parts having two polarizations.

7. The optical recording and/or reproducing apparatus of claim 1, wherein the support members are wires or leaf springs.

8. The optical recording and/or reproducing apparatus of claim 1, further comprising:

a holder provided at one side of the base and which receives corresponding ends of the support members;

outer yokes provided on the base and which receives a corresponding one of the magnets; and

inner yokes provided on the base and which are arranged respective to the outer yokes.

9. The optical recording and/or reproducing apparatus of claim 1, wherein at least one of the focus and tilt coils and the track coils is formed of a fine pattern coil.

10. The optical recording and/or reproducing apparatus of claim 8, wherein each of the focus and tilt coils is a single coil which directs the optical pickup apparatus in focus and tilt directions.